

# NORDMENDE

# Zentralkundendienst

# Service-Information

HiFi Control IF 1400 0.196 H IF 1400 1.100 H Cassette Control CF-1 0.179 H

### **Technische Daten**

### Fernbedienung IF 1400

Spannungsversorgung: 220 V ~, 50 Hz

Bestückung:

20 Transistoren

2 FET's

18 IC's

64 Dioden

1 Fotodiode 2 Opto-Koppler

6 LED's

Lautstärkeregelbereich:

> 35 dB

Klirrfaktor.

< 0.025 %

Übersprechdämpfung:

> 60 dB

Ahmessungen:

Breite: 440 mm 76 mm

Höhe:

Tiefe: 245 mm

### Infrarotgeber

Spannungsversorgung: 6 Mignonzellen je 1,5 V R 20

Bestückung:

3 Transistoren

12 Dioden 1 IC

4 LED's

Abmessungen:

Breite: 80 mm,

Höhe: 38 mm, Tiefe: 155 mm

Fernbedienung CF-1 (nur für CD 1400)

Kabellänge:

5 m

Funktionen:

Start, Aufnahme, Stop, Vorlauf,

Rücklauf, Pause

### **Technical Data**

### Remote control IF 1400

Power supply: 220 V ~, 50 Hz

Components:

20 Transistors

2 FET's

18 IC's

64 Diodes

1 Photodiode

2 Photocoupler 6 LED's

Volume control range:

> 35 dB

Distortion factor:

< 0.025 %

Cross-talk attenuation:

> 60 dB

Dimensions:

Width: 440 mm

Height: 76 mm

Depth: 245 mm

### Infra-red generator

Power supply:

6 Mignon cells each 1,5 V R 20

Components:

3 Transistors

12 Diodes

1 IC

4 LED's

Dimensions:

Width: 80 mm, Height: 38 mm,

Depth: 155 mm

Remote control CF-1 (for CD 1400 only)

Cable length:

Functions:

Start, Record, Stop, Fast-forward,

Fast-rewind, Pause

### Dati tecnici

### Telecomando IF 1400

Alimentazione: 220 V ~, 50 Hz

Componenti:

20 Transistor

2 FET

18 Circuiti integrati

64 Diodi

1 Fotodiodo 2 Fotoresistenze

6 LED

Campo di regolazione volume:

> 35 dB

Fattore di distorsione:

< 0.025 %

Attenuazione diafonia:

> 60 dB

Dimensioni:

Larghezza: 440 mm Altezza: 76 mm

Profondità: 245 mm

### Trasmettitore ad infrarossi

Alimentazione:

6 Pile Mignon 1,5 V R 20

Componenti:

3 Transistor 12 Diodi

1 Circuito integrato

4 LED

Dimensioni:

Larghezza: 80 mm, Altezza: 38 mm, Profondità: 155 mm

Telecomando CF-1 (solo CD 1400)

Lunghezza del cavo:

5 m

Funzioni:

Avviamenti, registrazione, stop. avanzamento rapido, ritorno rapido,

Diese Angaben und Hinweise sind ausschließlich für den Service des Fachhändlers bestimmt · Änderungen vorbehalten These instructions are for service dealers only · Subject to modification Questi dati ed istruzioni sono destinati esclusivamente al servizio assistenza clienti. Con riserva di modifiche

### **Abgleichanweisung**

#### 1. Infrarotgeber

Frequenzzähler über 100 k $\Omega$  und Tastteiler 10:1 an IC Pin 18 anschließen, eine Taste auf dem Geber drücken, L 1 auf 62,5 kHz abgleichen

### 2. Fernbedienungseinheit

Frequenzzähler über 100 kΩ und Tastteiler 10 : 1 an IC 207 Pin 3 (TP 1) anschließen, Spule L 201 auf 62,5 kHz abgleichen.

### 3. Ausgangspegel (laut und leise)

Vor der Einstellung das Gerät aus und wieder einschalten, Taste "Operate" drücken.

- a) Multimeter an TP 2 anschließen.
- b) "Volume-Clear"-Taste auf "Aus" schalten (Anzeige erlischt).
- Regler R 228 so einstellen, daß am Meßgerät – 7,2 V stehen (Einschaltlautstärke).
- d) Gerät auf "Tuner" schalten, 1 kHz 0 dB (700 mV) Signal in die Tuner-Eingangsbuchse einspeisen, Multimeter an die Ausgangsbuchse zum Verstärker anschließen. Die Regler R 247 (LK) und R 248 (RK) so einstellen, daß die Ausgangspegel an den Buchsen dem Regelbereich der Opto-Koppler PC 201 und PC 202 entspricht.

Opto-Koppler mit Farbcode:

Rot = -24 dB  $\pm$  1 dB Grün = -21.5 dB  $\pm$  1 dB Blau = -20 dB  $\pm$  1 dB

Bei Austausch der Opto-Koppler ist unbedingt auf gleiche Farbcodierung zu achten.

- e) Bei gedrückter "Volume clear" Taste soll der Ausgangspegel  $3\pm2$  dB betragen.
- f) In Stellung "Stand-by" soll der Ausgangspegel weniger als — 35 dB sein.

### **Alignment Procedure**

### 1. Infra-red generator

Connect the frequency counter to pin 18 of the IC over a 100 k $\Omega$  resistor and 10:1 probe, press one button on the generator and adjust L 1 for 62,5 kHz.

#### 2. Remote control

Connect the frequency counter over a 100 k $\Omega$  resistor and 10 : 1 probe to pin 3 of IC 207 (TP 1). Adjust coil L 201 for 62,5 kHz.

### 3. Output level (loud and quiet)

Before adjustment switch the unit off and then on again, press the "Operate" button.

- a) Connect a multimeter to TP 2.
- b) Set the "Volume Clear" button to "Off" indicator lamp extinguished).
- c) Adjust R 228 for -7.2 V on the multimeter (switch-on volume level).
- d) Switch the unit to "Tuner", apply a 1 kHz 0 dB (700 mV) signal to the tuner input socket. Connect the multimeter to the output socket of the amplifier. Adjust R 247 (left channel) and R 248 (right channel) so that the output level on the sockets corresponds to the control range of the photo coupler PC 201 and PC 202.

Photo-coupler with colour code:

Red = -24 dB  $\pm$  1 dB Green = -21,5 dB  $\pm$  1 dB Blue = -20 dB  $\pm$  1 dB

### Note:

When replacing the photo-coupler it is essential that they both have the same colour coding.

- e) With the "Volume clear" button depressed, the output level should be  $-3\pm2$  dB.
- f) In the "Stand-by" condition, the output level must be less than  $-\ 35\ \mathrm{dB}.$

### Procedura di taratura

### 1. Trasmettitore ad infrarossi

Collegare un frequenzimetro con in serie una resistenza da  $100~\text{k}\Omega$  al pin 18~del circuito integrato, premere uno dei tasti e regolare L 1 a 62.5~kHz.

#### 2. Telecomando

Collegare al piedino 3 (TP 1) di IC 207 con in serie una resistenza da 100 k $\Omega$  un frequenzimetro e regolare la bobina L 201 a 62,5 kHz.

#### 3. Livello di uscita

Prima della regolazione spegnere e riaccendere l'apparecchio, premere quindi il tasto "Operate".

- a) Collegare il multimetro al TP 2.
- b) Portare il tasto "Volume Clear" su "Aus" (l'indicatore si spegne).
- Regolare R 228 in modo tale che il multimetro indichi — 7,2 V (volume di inserimento).
- d) Portare l'apparecchio su "Tuner", iniettare un segnale 1 kHz 0 dB (700 mV) nella boccola ingresso tuner e collegare un multimetro alla boccola di uscita verso l'amplificatore. Regolare R 247 (LK) e R 248 (RK) in modo tale che il livello di uscita sulla boccola corrisponda al campo di regolazione delle fotoresistenze PC 201 e PC 202.

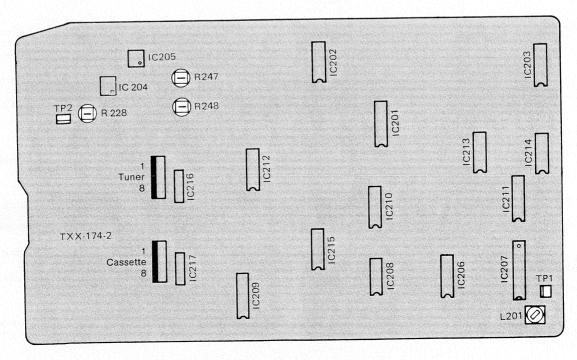
Fotoresistenze con codice colore:

Rosso = -24 dB  $\pm$  1 dB Verde = -21.5 dB  $\pm$  1 dB Bleu = -20 dB  $\pm$  1 dB

### Attenzione:

Nella sostituzione delle fotoresistenze deve essere prestata attenzione al rispetto del codice colore.

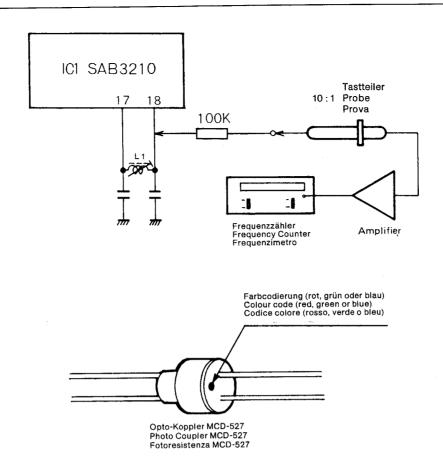
- e) Col tasto "Volume Clear" premuto il livello di uscita deve essere 3 dB  $\pm$  2 dB.
- f) In posizione "Stand-by" il livello di uscita deve essere inferiore a — 35 dB.



Lageplan – Abgleichpunkte

Position plan – Alignment points

Disposizione – Punti d'allineamento



# Sockelschaltungen - Socket connections - Ciruito di zoccolo



SAB 3209 IC1 SAB 3210



IC 203 ·TC4052BP 10206

·TC4027BP IC208 \*TC40I5BP



10209 \*TC405IBP IC210 , IC213 \*TC4049BP



IC 201 ·TC4016BP IC202

\*TC4066BP 10211

IC 212, IC214 • TC4011 BP IC215 ·TC4073BP

\*TC4081BP



IC 101 ·TDA4050



IC 204 , 205 · NJM4558D



X220 · 2SD325 (E) X221

.2SB560(D,E)



XIO1, X205, 206 ·25C1775AV (E , F) X201, X213, X802 ·2SA872AV (D,E) X202,204,207,212, X80I

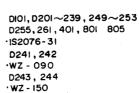
\*2SC458 (C) X214, 215 \*25K68(M,N)



·2SD438(E)



· LN317GP





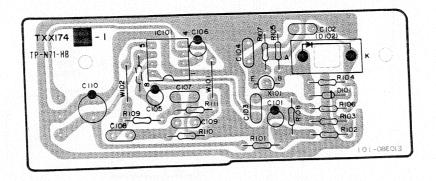
D701 · LN2IRPHL



D506, 245~248, 240 · ER812 - 02RK

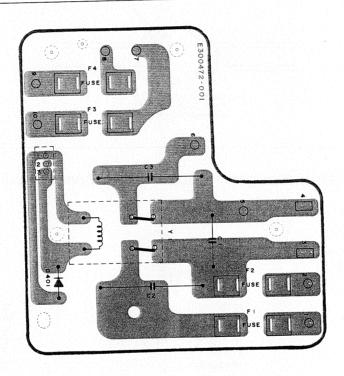


· 15 188 FM

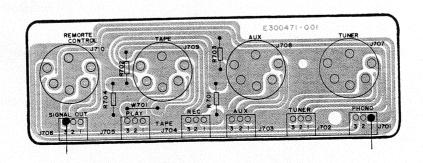


# Leiterplatte Infrarotvorverstärker – P.C.B. Infra-red preamplifier – Piastra del preamplificatore infrarosso

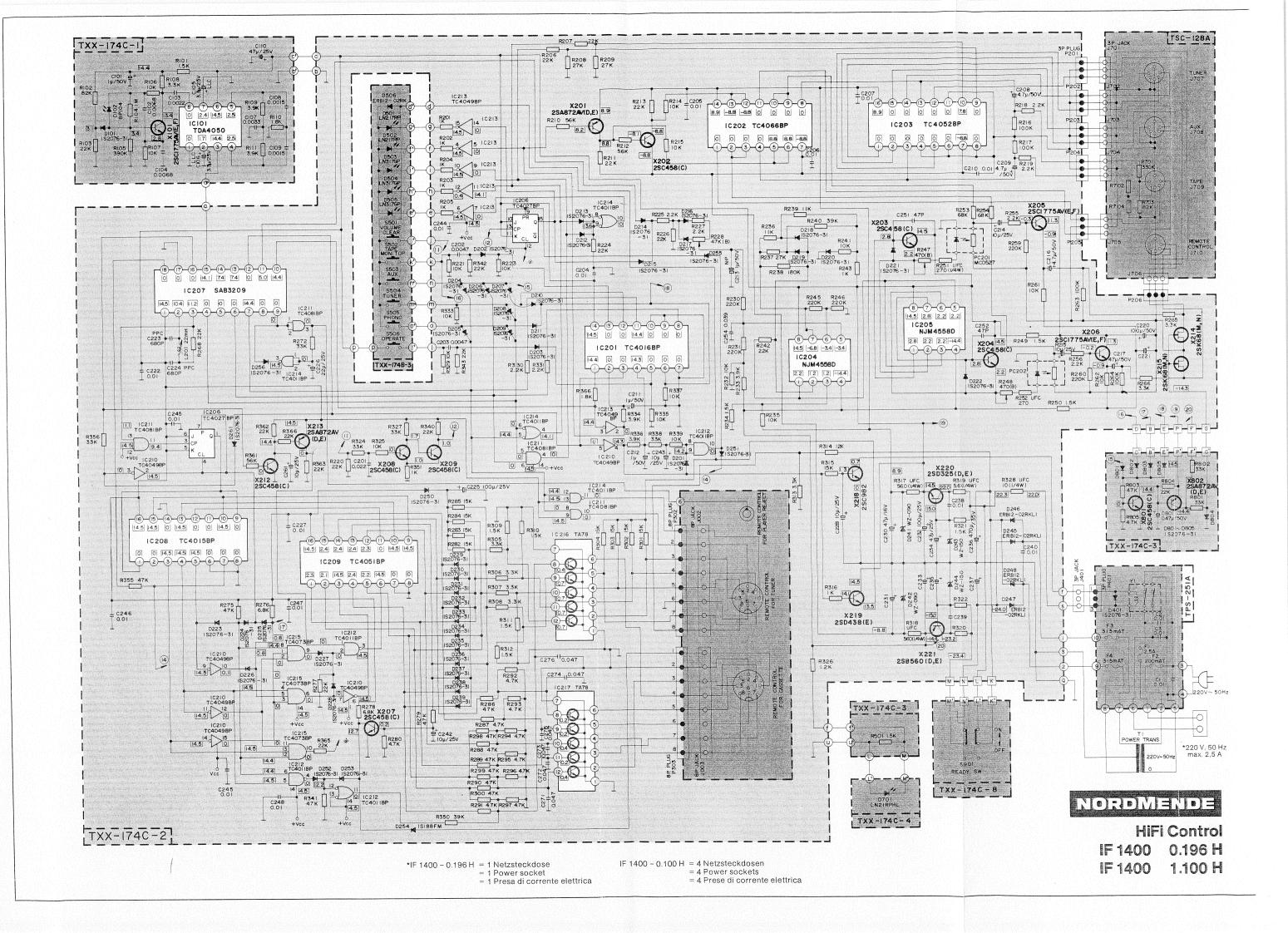
Bestückungsseite – Component side – Elimenti di vono

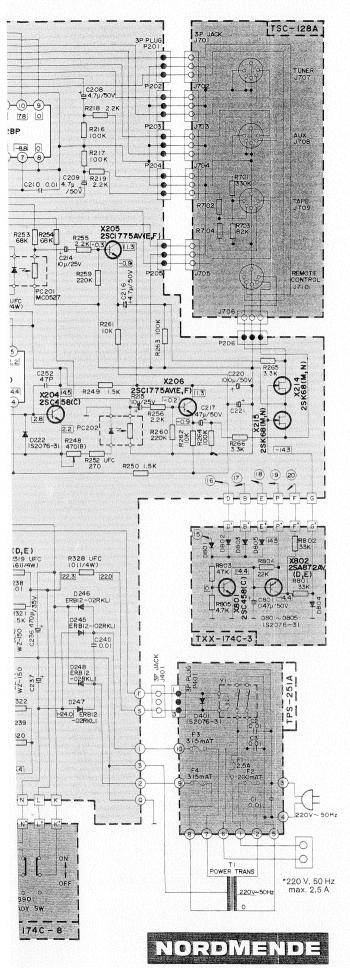


Leiterplatte Netzteil – P.C.B. Mains power unit – Piastra di rete Lötseite – Soldered side – Circuito stampato

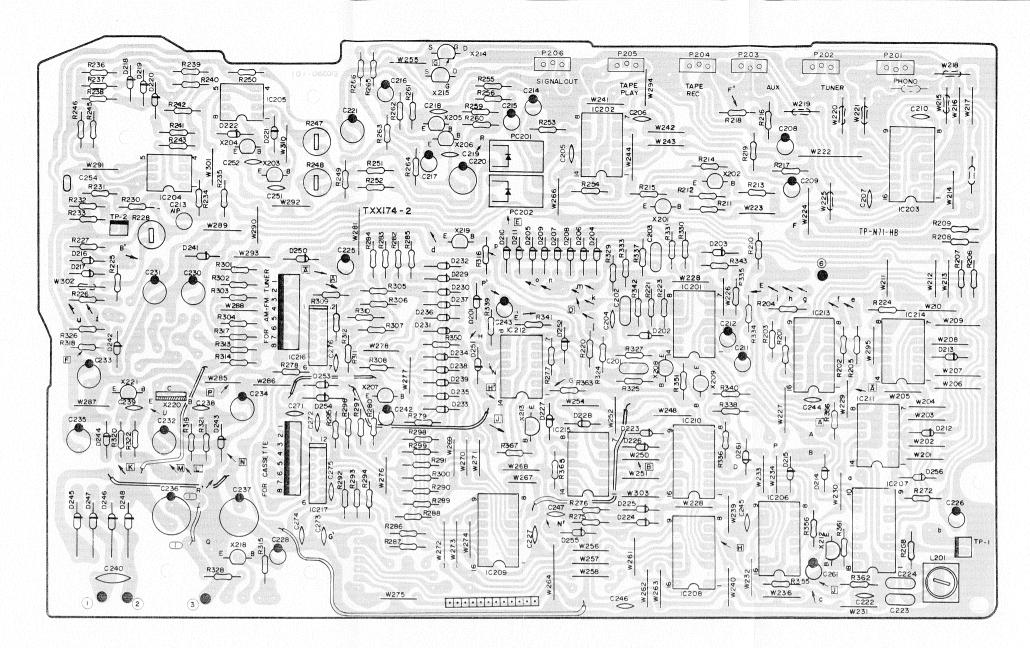


Leiterplatte Buchsen – P.C.B. Sockets – Piastra di prese Lötseite – Soldered side – Circuito stampato

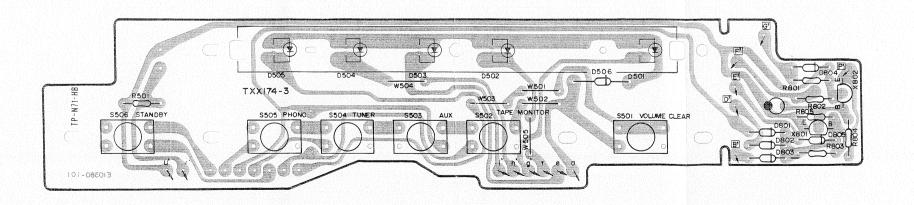




HIFI Control IF 1400 0.196 H IF 1400 1.100 H

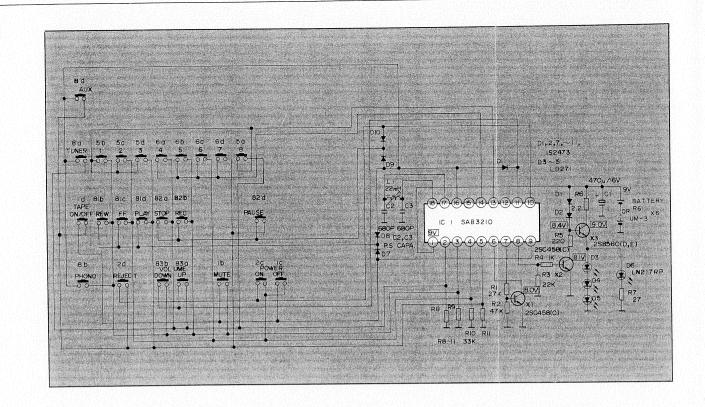


Grundplatte – Basic board – Piastra di base Bestückungsseite – Component side – Elimenti di vono

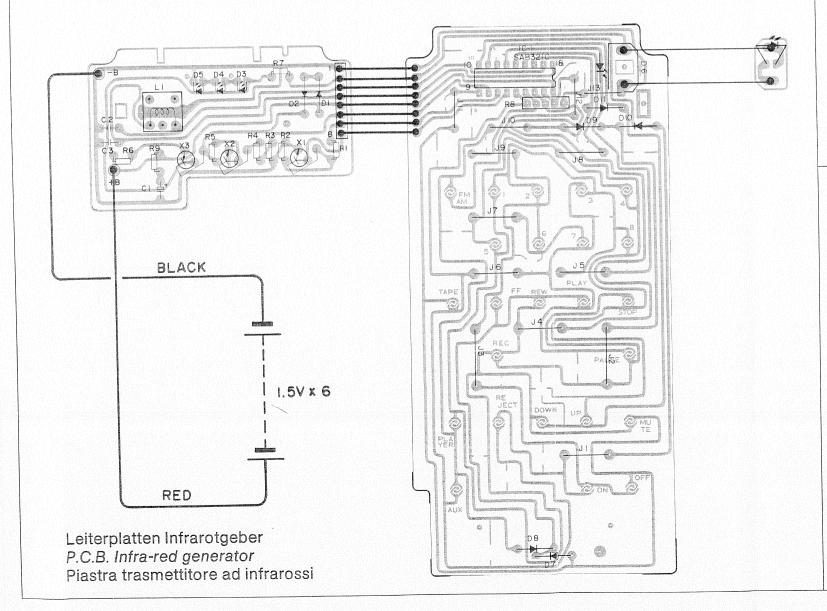


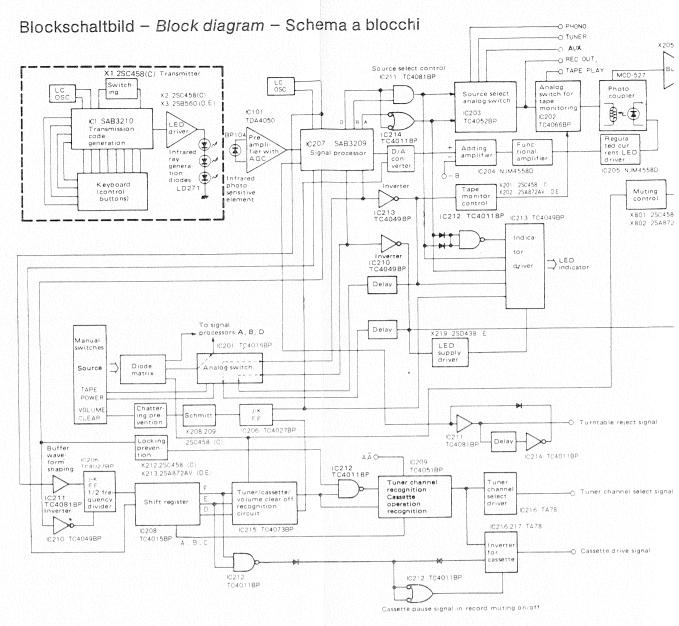
Leiterplatte Tippschalter und LED – P.C.B. Touch switch and LED
Piastra interruttori a pressione e LED

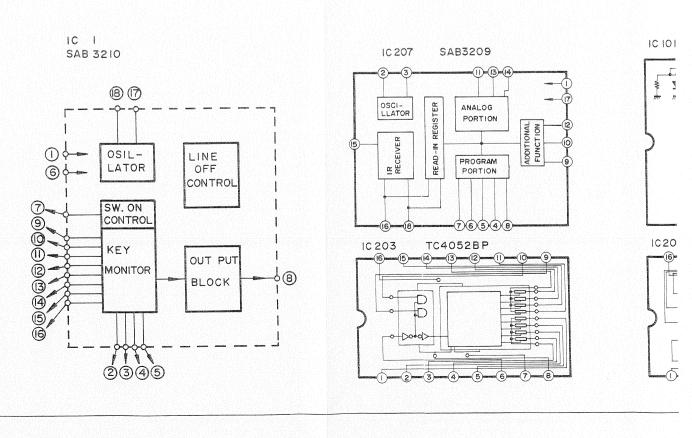
Bestückungsseite – Component side – Elimenti di vono

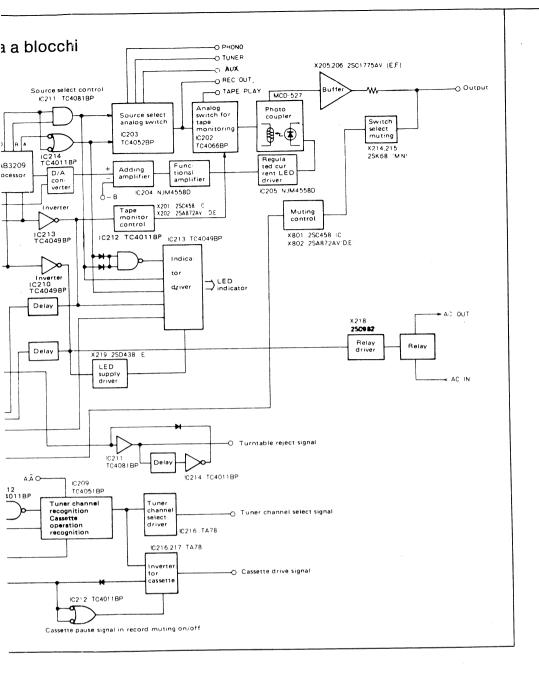


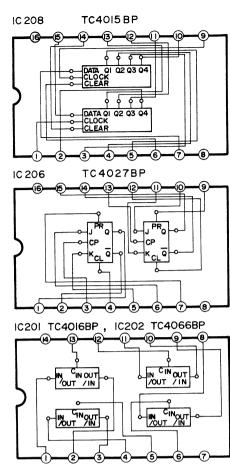
Infrarotgeber - Infra-red generator - Trasmettitore ad infrarossi



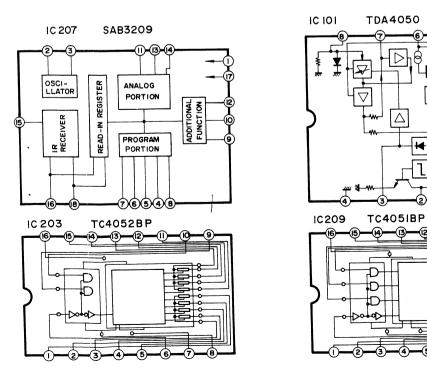


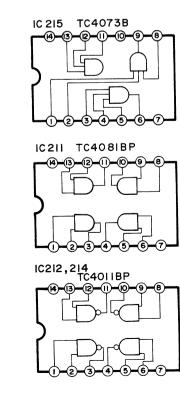






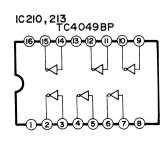
IC-Schaltungen
IC diagrams
Schema circuiti integrati

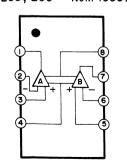




## Wahrheitstabelle - Truth table - Tabella di codifica

Taste	Kommando Command	Co	mm		4 C	ard			IC	207	'						IC211 4 PIN	IC214 4 P.IN	IC	215	5	IC	212	?
Key Tasto	Comando		F	E	D	С	В	Α	4	5	6	7	9	10	11	12	IC203 10 PIN	1C203 9 PIN	6	9	10	3	4	11
1c	Operate OFF		0	0	0	0	1	0	*	*	*	*	0	0	0	1	*	*	0	0	0	1	1	0
2c	Operate ON		0	0	0	1	1	0	*	*	*	*	0	0		0	*	*	0			1		
1b	MUTE ON		0	0	0	0	0	1	*	*	*	*	0	0	0		*	*	0			1		
1d	TAPE MONI ON-OFF		0	0	0	0	1	1	*	*	*	*	0	1 or 0			*	*	0			1		
2d	PLAYER REJECT		0	0	0	1	1	1	*	*	*	*	1 puls				*	*	0			1		
5b	TUNER Select 1cH		0	1	0	0	0	1	0	0	0	1	0				0	1	1					
5c	2cH		0	1	0	0	1	0	0	0	1	0					0	1	1					
5d	3cH		0	1	0	0	1	1	0	0	1	1					0	1	1					
6a	4cH		0	1	0	1	0	0	0	1	0	0					0	1	1					
6b	5cH		0	1	0	1	0	1	0	1	0	1					0	1	1					
6c	6cH		0	1	0	1	1	0	0	1	1	0					0	1	1					
6d	7cH		0	1	0	1	1	1	0	1	1	1					0	1	1					
5a	8cH		0	1	0	0	0	0	0	0	0	0					0	1	1					
8a	TUNER		0	1	1	1	0	0	1	1	0	0					0	1	0			1		
8b	PHONO		0	1	1	1	0	1	1	1	0	1					0	0				1		
8d	AUX		0	1	1	1	1	1	1	1	1	1				-	1	0		0		1		ò
l 81b	REW		1	0	0	0	0	1	•											1				0
81c			1	0	0	0	1	0												1				
	PLAY		1	0	0	0	1	1												1				
	STOP		1	0	0	1	0	0												1				
82b			1	0	0	1	0	1												1				
82d	PAUSE		1	0	0	1	1	1												1	0			
83a	VOLUME UP/MUTE		1	0	1	0	0	0				1			•				1	0	1	1		
83b	VOLUME DOWN		1	0	1	0	0	1	:	*	*		0	<u> </u>	*	O		1	Ö	0	1	1	i	0
Enc	ding		1	1	1	1	1	0																





IC205, 206 NJM4558D

## IC-Wahrheitstabellen - IC truth table - Tabella di codifica

"1" = High level, "0" = Low level)

### TC4011BP (IC212,214)

Inp	ut	Output
Α	В	С
0	0	1
1	0	1
0	1	1
1	1	0

### TC4081BP (IC211)

Inp	ut	Output
Α	В	С
0	0	0
1	0	0
0	1	0
1	1	1

### IC211, 212, 214 PIN

Α	В	С
1	2	3
5	6	4
8	9	10
12	13)	11)

### TC4016BP (IC201) TC4066BP (IC202)

Control terminal	Input/ output	Output/ input
13)	1	2
(5)	4	3
6	8	6
12	11)	10

Input/output becomes ON when the level at control terminal changes to high ("1").

### TC4073BP (IC215)

	Input	nput Outpu						
1	2	8	9					
3	4	(5)	6					
11)	12	13)	10					
1	1	1	1					
If a	ny one onputs is	0						

### TC4049BP (IC210, 213) (Inverter)

Input	Output
3	2
(5)	4
7	6
9	10
11)	12
13)	15)

### TC4052BP (IC203)

Contro	ol inpu	t	Output		
INHIBIT	В	Α	Comn	nonX	CommonY
6	9	10		13)	3
0	0	0	0	12)	1
0	0	1	1	13	5
0	1	0	2	15	2
0	1	ι	3	11)	4
1	*	*	NO	ONE	NONE

Hinweis: Zahlen in Kreisen sind Pin-Bezeichnungen Numbers in circles are pin numbers Note:

I numeri negli schemi sono i Nota:

numeri dei pin

Α	В	C
1	2	3
5	6	4
8	9	10
12)	13)	11)

### TC4015BP (IC208)

	Input			Out	out	
^CLOCK	DATA CLEA		Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>
9/1	7/19	6/1	<b>⑤/①</b>	4/12	3/11	10/2
	0	0	0	Q <sub>1</sub>	Q <sub>2</sub>	Qз
	1	0	1	Q <sub>1</sub>	Q 2	Q <sub>3</sub>
7_	*	0		Not cl	nange	
*	*	1	0	0	0	0

△ Level change ₩ Irrelevant

#### TC4027BP (1C206)

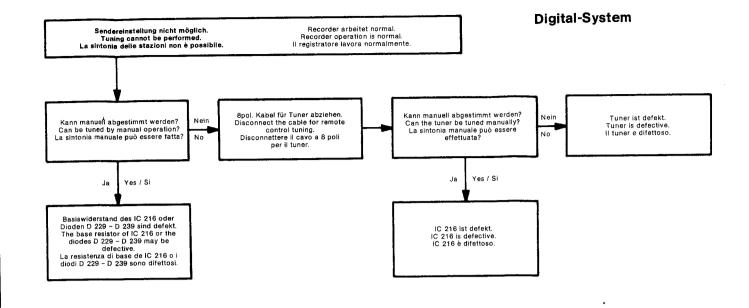
		Input			Outp	ut
CL	PR	J	K	CP A	ڳn+ 1	Qn+ 1
4/12	7/9	6/10	5/11	3/13	1)/15	2/1
0	1	*	*	*	1	0
1	0	*	*	*	0	1
1	1	*	*	*	0	1
0	0	0	0		Qn	Qn٠
0	0	0	1		0	1
0	0	1	0		1	0
0	0	1	1		Qn	Qn''
0	0	*	*	1-1_	Qn	Qn'

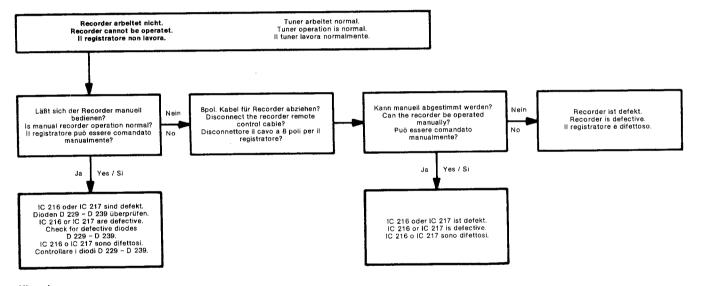
. Not change

### TC4051BP (1C209)

┚	" channel	"ON	Ì	put	ontrol in	Co
	non ③	Lommon 3		В	С	INHIBIT
			11)	10	9	6
	3) ← ③	0 (	0	0	0	0
	<b>- 0</b>	1	1	0	0	0
	<b>←</b> ①5	2	0	1	0	0
╛	<b>←</b> ①2	3	1	1	0	0
	<b>-</b> 1	-4	0	0	1	0
╛	<b>←</b> ⑤	5	1	0	1	0
	<b>←</b> ②	6	0	1	1	0
	<b>← ④</b>	7	1	1	1	0
╝	NONE		*	*	*	1

### Reparaturhilfen - Service aids - Ausili alla riparazione

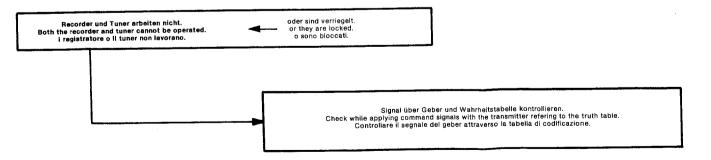




Wenn nur die Pausentaste funktioniert, kann X 207 oder IC 212 defekt sein. Wenn eine Funktion nicht arbeitet, ist IC 207 defekt.

## If the phase mode only can be obtained X 207 or C 212 may be defective. If one particular control is inoperative, IC 207 is defective.

Se funziona solo il tasto di pausa possono essere difettosi X 207 o IC 212, se non funziona un comando è difettoso IC 207.



Zur Reparatur die Wahrheitstabelle verwenden. Plattenspieler-Reject-Funktion kann nicht über Fernbedienung betätigt werden, wenn die gemeinsame Masse zwischen Verstärker Fernbedienung und Plattenspieler nicht vorhanden ist.

For repairing, refer to the truth table. The turntable reject operation cannot be performed with the Remote Transmitter if common grounding between the turntable, the amplifier and the central controller is not properly made.

Per la riparazione utilizzare la tabella delle funzioni. La funzione Reject del giradischi non può essere telecomandata se non è realizzata la massa generale tra amplificatore telecomando e giradischi.

Leuchtet Does the L'indica

Is the sign



lst das Ausgangssignal an P und 10 (LK) sowie Pin 2 und t von IC 202 vorhanden? Is the signal available at ou pins 9 and 10 (LK) and pin and 3 (RK) of IC 202? Il segnale di uscite ai pin 9 e 1 così come ai pin 2 e 3 (RK) di è presente?



X 205 und X 206 oder die F X 214 und X 215 haben Sct X 205 and X 206 or the FE X 205 and X 206 of the FE X 214 and X 215 are short cir-X 205 e X 206 o i FET X 214 e X 215 sono in cor

Ist die Volume-Clear-Taste au Is the Volume Clear buttc Durante la manovra di v

Yes / S

Ändert sich die Emitterspann X 203 und X 204 von 1,3 – Is the emitter voltage of X 20 X 204 changed from appr 1,3 – 9 V? La tension di emitter di X 203 e X 204 varia fra 1,3 V

> Yes / S Ja

Läßt sich die Spannung m Reglern R 247 und R 248 einstellen, sind die Opto-K PC 201 und PC 202 defr Are the semifixed resist R 247 and R 248 open circu photo couplers PC 201 and are defective.

Se la tensione non si lascia con R 247 e R 248 le fotore: PC 201 e PC 202 sono dife

### Hinweis:

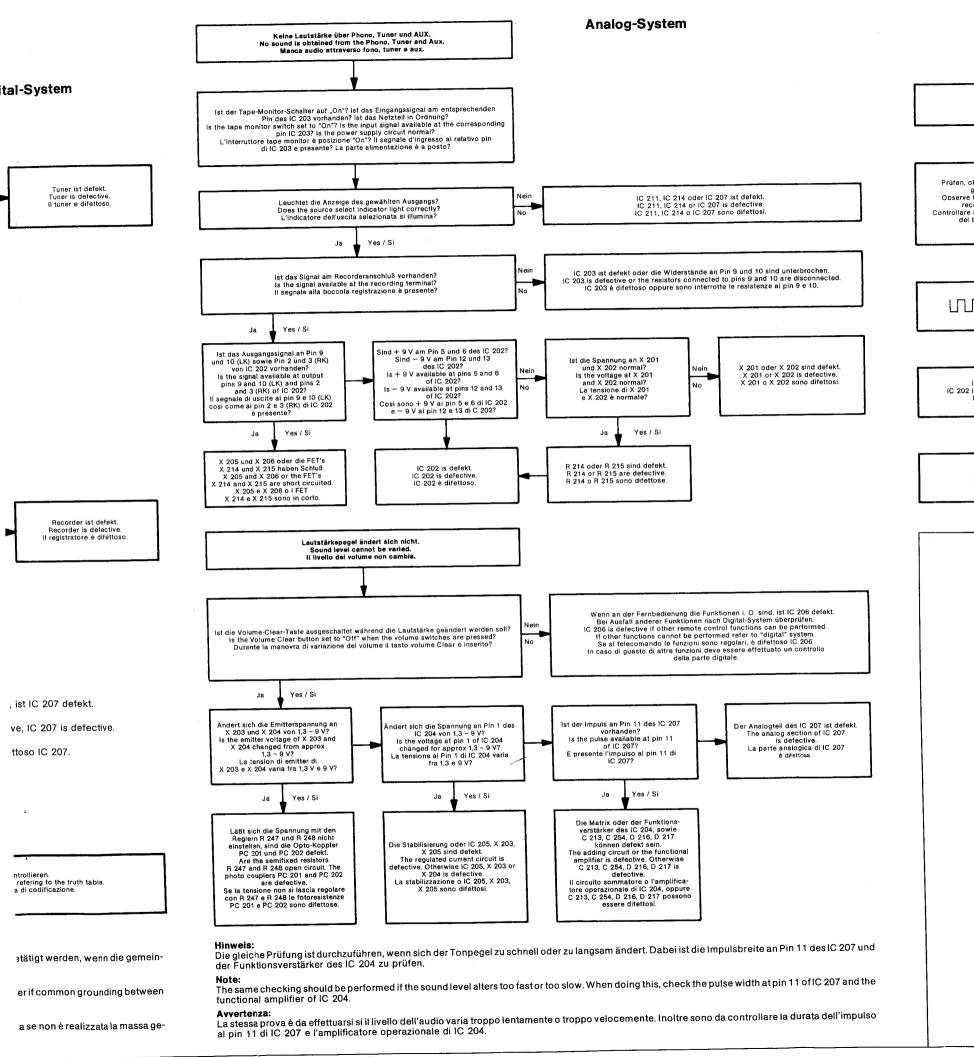
Die gleiche Prüfung ist c der Funktionsverstärke

### Note:

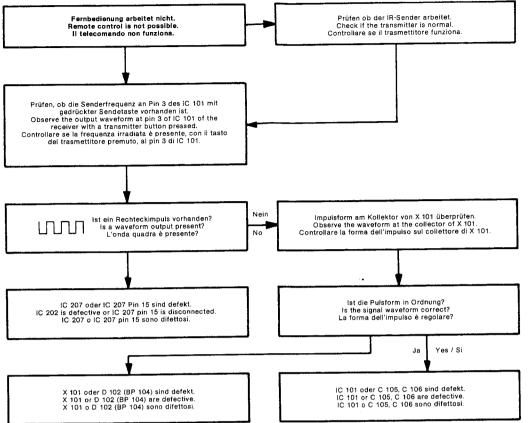
The same checking sho functional amplifier of I

### Avvertenza:

La stessa prova è da eff al pin 11 di IC 207 e l'a



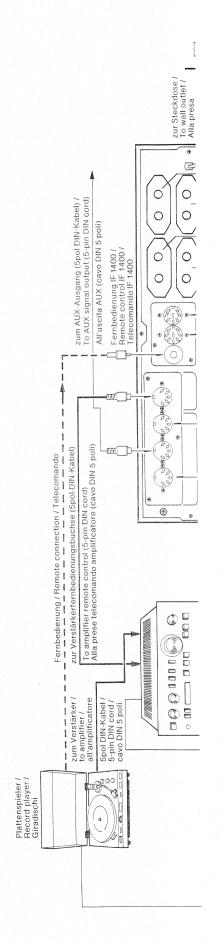
### Fernbedienung / Remote control / Telecomando



### Nachtrag / Notes / Appunti

Anschlußplan - Connection - diagram - Schema dei collegamenti

Anschlußs Coni Schema di



Anschlußschema für die HiFi-Componenten Connection diagram for HiFi units Schema di collegamento dei componenti HiFi

220V~50Hz

BROWN RED

ORANGE YELLOW GREEN BLUE

VIOLET

GRAY

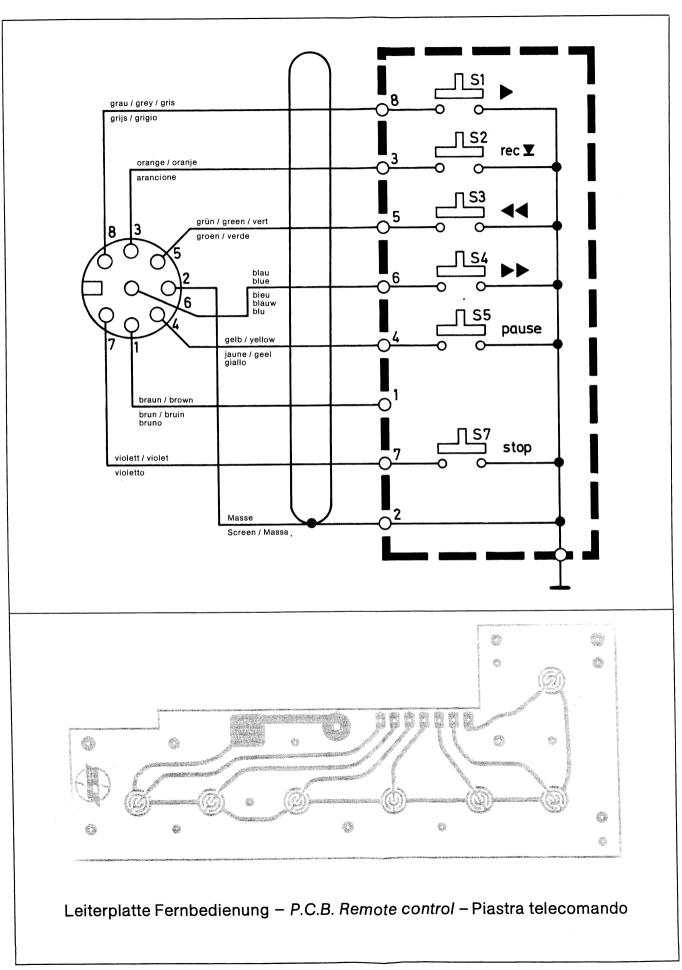
0 ó 0  $\bigcirc$ 

1400 – 0.196 H = 1 Netzbuchse 1 Power socket 1 Presa di corrente elettrica

1400 - 0.100 H

NORDMENDE

# Cassette Control CF-1 0.179 H



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